



C302652

**PrJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE**

|   |   |   |
|---|---|---|
|  | Contract No.: 20002<br>TECHN.PROTOCOL № 390-11 SPEC.№ 3055/PO51518<br>DIN EN 10088-3-05,DIN EN 10272-08,AD2000-Merkblatt W2;AD 2000-Merkblatt W10;ASTM A182/A182M-10;ASME SA-182/SA-182M-10;ASTM A276-10;ASTM A314-08,ASTM A479/A479M-10;ASME SA-479/SA-479M-10;ASTM A484/A484M-10;AMS-QQ-S-763B-06 Cond.A;AMS 5648K-07;AMS 5653F-07;ASTM A193/A193M-10GR B8M,CL1; ASME SA-193/SA-193M-10 GR B8,CL 1 ;ASTM A320/A320M-08 GR B8M,CL 1;ASME SA-320/SA-320M-10 GR B8M,CL 1;NACE MR 0175-03;NACE MR 0103-10 | Sheets:3<br>Sheet: 1<br>INSPECTION CERTIFICATE EN10204/3.1 Nr. 371973<br>PLANT ORDER № 8014903055 |
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|   |  |  |   |
|---|--|--|---|
|  | CUSTOMER<br><b>DSS INTERNATIONAL</b><br>SA Switzerland | <b>PRODUCT DESCRIPTION</b><br>Bars and rods of corrosion-resistant (stainless) steel hot rolled, peeled on Landgraf line.Прутки из коррозионностойких (нержавеющих) сталей горячекатаные, обточенные на линии Ландграф.<br><b>STEEL MAKING PROCESS: EAF+AOD</b><br><b>СПОСОБ ВЫПЛАВКИ:</b> Электродуговая печь+АКР<br>Round 5.000in/127.00 mm L=5.300/17.000ft L=5.080m/17.000ft<br><b>Grade: 316/316L/1.4401/1.4404</b> | QUANTITY: <b>1bund Q-5957lb/2702 kg</b><br>(number of pcs) <b>1bund Q-1160lb/526 kg</b> |
|   |  | Delivery condition<br>solution annealed :1900° F(1040° C)water 30minutes<br>термообработка:закалка в воду  |   |

| ANALYSIS, %      | C     | Si    | Mn        | P     | S         | Cr          | Ni          | Mo        | Al   | Cu   | V    | W    | Ti   | Co   | Nb   | N    | Sn   | B     |
|------------------|-------|-------|-----------|-------|-----------|-------------|-------------|-----------|------|------|------|------|------|------|------|------|------|-------|
| REQUIRED         | <.030 | <1,00 | 1.20-2.00 | <.040 | .015-.030 | 16.50-18.00 | 10.00-13.00 | 2.00-2.50 | <.10 | <.40 | <.10 | <.20 | <.15 | <.40 | <.20 | <.10 |      |       |
| CAST<br>№ A10115 | .020  | .43   | 1.33      | .040  | .022      | 16.78       | 10.19       | 2.06      | .073 | .28  | .05  | .06  | .005 | .10  | .01  | .034 | .009 | .0023 |

DIN EN 10002-1,ASTM A370-09

| MECHANICAL PROPERTIES | Yield Strength, (N/mm <sup>2</sup> )<br>R0.2% R 1.0% |            | Tensile Strength, Rm, (N/mm <sup>2</sup> ) | Elongation   |                                     | Reduction of area, Z %<br>L | Brinell Hardness HB | Impact strength, KV, J     |   |
|-----------------------|--|------------|--|--------------|-------------------------------------|-----------------------------|---------------------|----------------------------|---|
|                       | L  | Q          |  | A5%<br>L Q   | In 2 inches (50mm) or 4D,min,%<br>L |                             |                     | L                          | Q |
| REQUIRED              | 205  | 240        | 515-700                                    | 40 -         | 40                                  | 50                          | 140-217             | 100                        | - |
| EFFECTIVE             | 286<br>291   | 315<br>323 | 580<br>580                                 | 61 -<br>62 - | 58<br>59                            | 75<br>77                    | 170<br>170          | 220 220 220<br>224 224 224 | - |


**TECHNICAL REQUIREMENTS:**  
 Macrostructure – GOOD  
 GRAIN SIZE : 5 to ASTM E 112-96(2004)  
 Nonmetallic inclusions ASTM E 45-05 (Method A)  

| A    | B     | C    | D     |
|------|-------|------|-------|
| thin | thick | thin | thick |
| 3.0  | 2.0   | 2.0  | 1.0   |
| 0.0  | 0.0   | 0.0  | 1.0   |

 ICC-ASTM A262-08 (practice E)-test: O.K.  
 Dimension/surface defects test, anti-mixing test – OK  
 We acknowledge that the delivered products conform to the requirements of the order  
 Ratio of reduction-22.3:1

Mechanical properties tested in state of delivery

|              |     |  |
|--------------|-----|--|
| US - testing | yes | Results: ASTM A388/A388M-FBH1/8";EN 10308 type 1a;class 3:OK |
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Date: 20.07.2021  
 Manager of quality assurance department - V. Kapaieva  
 Signed:   
 Zaporozhye  
 Melted and Produced in Ukraine.  
 MELTED and MANUFACTURED  
 PrJSC " Dniprospsstal"  
 Phone number +380612834255  
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Radiation free; mercury free. No Weld or Weld repair.

ANS